



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/782,793

02/23/2004

Yasufumi Hosokawa

118822

5522

25944

7590

05/02/2006

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

CASAREGOLA, LOUIS J

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/782,793

Applicant(s)

HOSOKAWA ET AL.

Examiner

Louis J. Casaregola

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Election

Applicants' election of the species of Figure 1 is acknowledged. The election was made with traverse. Applicants' arguments have been considered but are not effective in demonstrating that the election requirement is improper.

Applicants take the position that the species in this case are sufficiently related that they would involve the same search, and the examination of the entire application could thus be made without serious burden. It is pointed out however that, contrary to what applicants suggest, the examination burden is not limited exclusively to a prior art search but also includes the effort required to apply the art by making and discussing all appropriate grounds of rejection. Multiple species, such as those in the present application, normally require additional reference material and further discussion for each additional species examined. Concurrent examination of multiple species would thus typically involve a significant burden even when all searches are coextensive.

Applicants have listed claims 1-9 and 11-13 as readable on the elected Figure 1 species. An action on the merits of these claims is set forth below, and non-elected claim 10 is withdrawn from further consideration.

Claim Rejections - 35 USC 102

Claims 1-5, 7-9 and 13 stand rejected under 35 USC 102(b) as being anticipated by Pfefferle.

The claimed gas turbine engine reads on prior art turbine engines of the type disclosed by Pfefferle. Attention is called to the gas turbine in Pfefferle's Figure 1; note the air flow control system comprising variable vane row 20 located within air intake duct 16 upstream of compressor 10. Note also that the vanes are operated by control means 25 responsive to power demand or load (col. 14, lines 1-6). It is additionally pointed out that the claimed expression "so as to maintain an air-to-fuel ratio in said combustor within a proper range suited to suppress a discharge of an atmospheric pollutant" (claim 1, lines 11-13) is merely a desired result. The prior art system can be reasonably expected to achieve such a result to the same extent as the claimed system; see for example, column 1, lines 36-39 of Pfefferle, which indicate that Pfefferle's system is specifically operated in a manner that limits pollution.

With regard to claim 7, it is pointed out that the size and spacing of Pfefferle's vanes 20 makes them capable of totally closing the air intake path.

With respect to claim 8, it is also pointed out that Pfefferle's combustor 26 is a catalytic combustor; see catalyst element 38.

As concerns claim 9, it is additionally pointed out that Pfefferle's system is responsive catalyst exit temperature, as indicated by the presence of sensor 42.

Claims 11 and 12 are rejected under 35 USC 102(b) as being anticipated by Pfefferle as discussed above and with further comment.

As presently amended, claims 11 and 12 respectively state that the claimed engine is operated "at a fixed number of revolutions per minute" (fixed speed) or that "its number of revolutions per minute is changed depending said load" (variable speed). The cited expressions merely set forth intended modes of use. If the claimed apparatus is presumed capable of being used in this manner, than the structurally equivalent prior art can be presumed equally capable.

Claim Rejections - 35 USC 103

Claim 6 stands rejected under 35 103(a) as being unpatentable over Pfefferle in view of Gulick.

The details of Pfefferle's vane actuator 41a are not disclosed, but it is well known in the art that vane actuators may comprise a rack and pinion mechanism as shown, for example, by Gulick; see elements 62, 63, etc. in Figure 1. It would have been obvious to add similar structure to Pfferle's system in order to fill in the missing details necessary to complete the vane actuator apparatus.

Arguments

Applicants' arguments have been considered but are not effective in overcoming the rejection.

Applicants take the position that unlike the present invention, Pfefferle's air inlet valve (18) is not used to control combustion temperature under load, but rather, this function is performed by a proportioning valve (24). This point is disputed. Like the inlet control in the claimed invention, Pfefferle's inlet valve 18 is clearly used to adjust air flow during operation under load. While proportioning valve 24 may control the split between the combustion and downstream combustor zones, the actual amount of air received by the combustion zone is still a function of the total amount of air ingested by the system, and this parameter is controlled by valve 18. Valve 18 thus works in conjunction with valve 24 to determine the actual amount of air flow supplied to the combustion zone, which in turn, affects combustion temperature and pollutant formation.

It is additionally emphasized that there is nothing in the present claims requiring the air intake control means to act alone in adjusting the air flow to the combustor. Systems such as Pfefferle's, in which an air intake control performs this function in conjunction with other control elements, are thus sufficient to meet the broad requirements of the present claims.

Final Rejection

THIS ACTION IS MADE FINAL. Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.



L. J. Casaregola
571-272-4826 (M-F; 7:30-4:00)
571-273-8300 FAX
May 1, 2006

If repeated attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).